

Notice of Allowability

Application No.

10/088,606

Examiner

Anthony Mackowey

Applicant(s)

OKAMOTO ET AL.

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 16 February 2007.
2. ☒ The allowed claim(s) is/are 2-5, 15 and 16; renumbered 1-6.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f):
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 20070522.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Tim MacIntyre (Reg. No. 42,824) on May 21, 2007.

The application has been amended as follows:

- Cancel claims 1, 7 and 8-12.
- Claim 2, lines 5-6, insert --a-- between "and" and "perspective" so as to recite, "using said camera image and a perspective projection conversion method."
- Claim 2, line 9, delete "comprising" and replace with --includes--.
- Claim 15, line 8, insert --from—between "viewed" and "a" so as to recite, "viewed from a virtual viewpoint."

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

Claim 2 recites, "generating a synthesized image viewed from a virtual viewpoint to be displayed on a display device using said camera image and a perspective projection conversion method, the synthesized image viewed from a virtual viewpoint set above the one or more cameras in a downward direction, wherein said synthesized image includes an enlargement ratio

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of a nearby area of the vehicle including grounding portion of the tire being relatively higher than an enlargement ratio of a peripheral area around the vehicle.”

Claim 15 recites, “wherein said image processing unit is operable to project said camera image onto a bowl model and operable to generate said synthesized image viewed from a virtual viewpoint, and said synthesized image includes an enlargement ratio of a nearby area of the vehicle including grounding portion of the tire being relatively higher than an enlargement ratio of a peripheral area around the vehicle.”

Claim 16 recites, “wherein said synthesized image includes an enlargement ratio of a nearby area of the vehicle including grounding portion of the tire being relatively higher than an enlargement ratio of a peripheral area around the vehicle, and said synthesized image includes a vehicle image having a linearity of the side surface of the vehicle, the linearity of the side surface being parallel to and ahead in the moving direction of the vehicle.”

The above features, as explicitly recited, in combination with the other elements of the claims is neither disclosed nor suggested by the closest prior art of record.

US 6,580,373 to Ohashi teaches a vehicle with cameras for monitoring the surrounding area of the vehicle, the cameras capturing side portions of the vehicle and the tires. US 6,259,359 to Fujinami et al. teaches using a prism in front of a camera to enlarge the lower portion of the image captured by the camera. Claim 2 requires the synthesized image be generated using a perspective projection conversion method, therefore the enlargement ratio is clearly a result of the processing performed by the processing unit, and is not performed optically as taught by Fujinami et al..

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US 7,034,861 to Okada et al. having the same assignee discloses projecting a camera image onto a spherical model (col. 3, lines 9-26), however, Okada does not teach this projection onto the spherical model results in an enlargement ratio becoming relatively higher in a nearby area than in a peripheral area in the synthesized image as required in claim 15.

Claim 16 describes the synthesized image having a linearity of the side surface of the vehicle, the linearity of the side surface being parallel to an ahead in the moving direction of the vehicle. From Fig. 16 of Ohashi one can clearly see the linearity is not parallel to the direction of travel of the vehicle.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

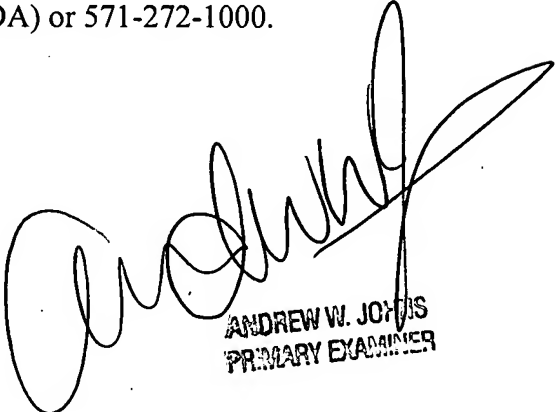
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Mackowey whose telephone number is (571) 272-7425. The examiner can normally be reached on M-F 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bella Matthew can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AM
5/22/07



ANDREW W. JONES
PRIMARY EXAMINER